

Attachment

U.S. Patent

Aug. 10, 2004

Sheet 1 of 5

US 6,774,498 B2

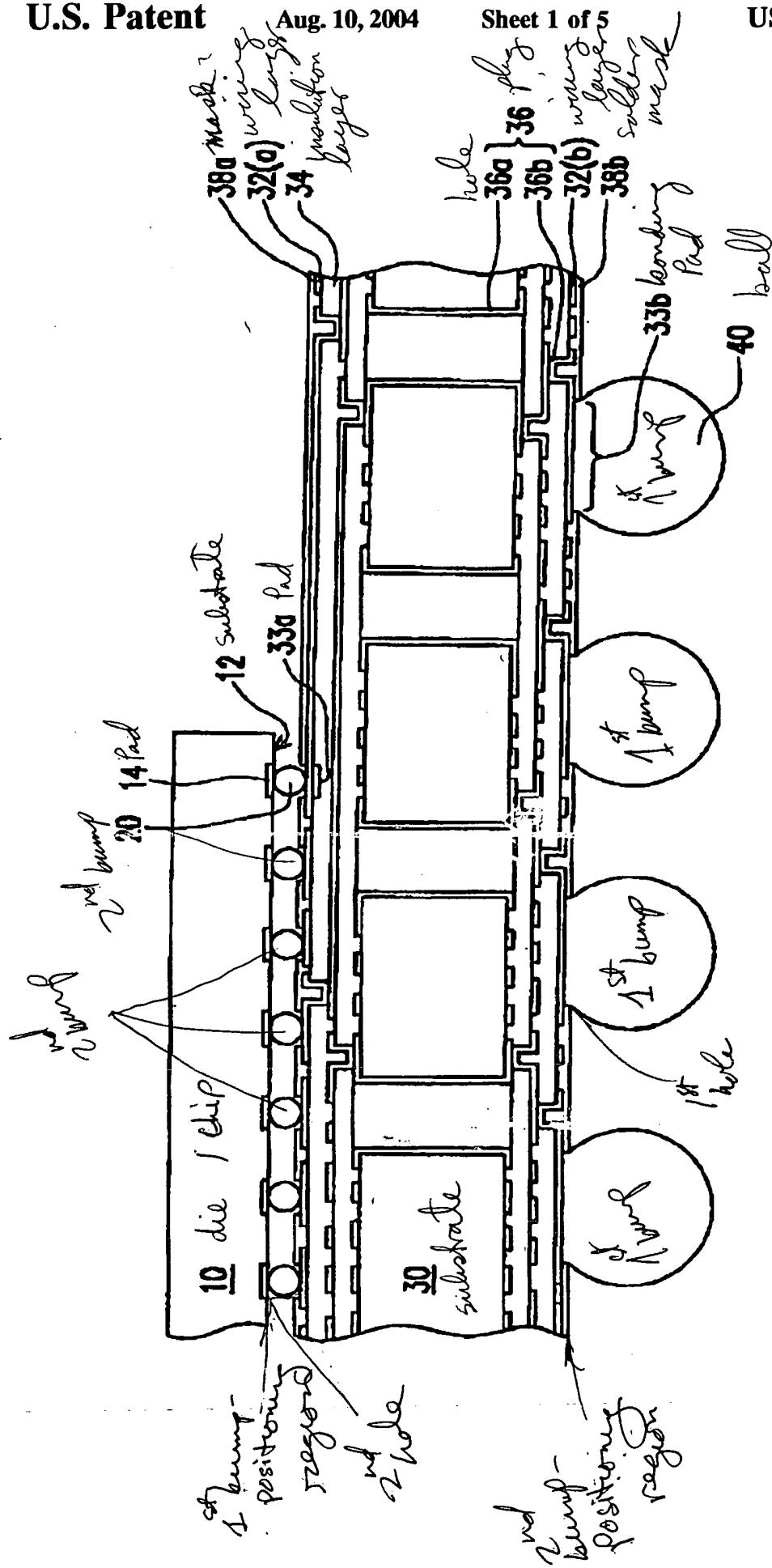


FIG. 1 (PRIOR ART)



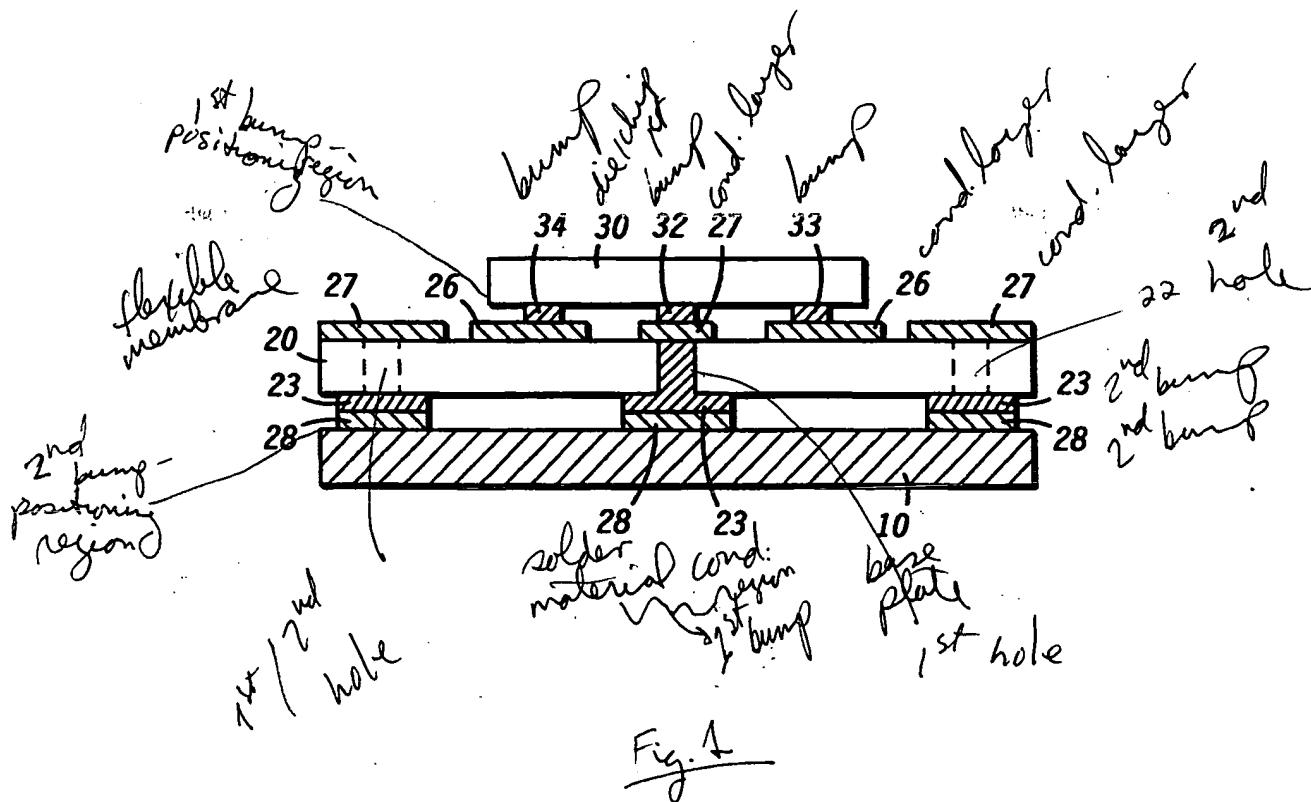
US005352926A

United States Patent [19]**Andrews****[11] Patent Number: 5,352,926**
[45] Date of Patent: Oct. 4, 1994**[54] FLIP CHIP PACKAGE AND METHOD OF MAKING****[75] Inventor: James A. Andrews, Phoenix, Ariz.****[73] Assignee: Motorola, Inc., Schaumburg, Ill.****[21] Appl. No.: 80****[22] Filed: Jan. 4, 1993****[51] Int. Cl. 5 H01L 23/48****[52] U.S. Cl. 257/717; 257/737; 257/778; 437/209; 437/215****[58] Field of Search 257/737, 747, 720, 778, 257/717, 778, 734; 437/195, 209, 215****[56] References Cited****U.S. PATENT DOCUMENTS**

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FOREIGN PATENT DOCUMENTS**56-94781 7/1981 Japan****Primary Examiner—William Mintel****Assistant Examiner—Roy Potter****Attorney, Agent, or Firm—Miriam Jackson****[57] ABSTRACT**

A portion of a semiconductor die is rigidly flip chip bonded to a conductive base plate and portion is bonded to a flexible dielectric material to take advantage of the benefits of flip chip packaging while at the same time allowing for heat to be dissipated and for differential thermal expansion to be relieved. A semiconductor die having at least a first and a second bump formed thereon is rigidly connected to the base plate through the first bump and is flexibly connected to the base plate through the second bump.

19 Claims, 2 Drawing Sheets

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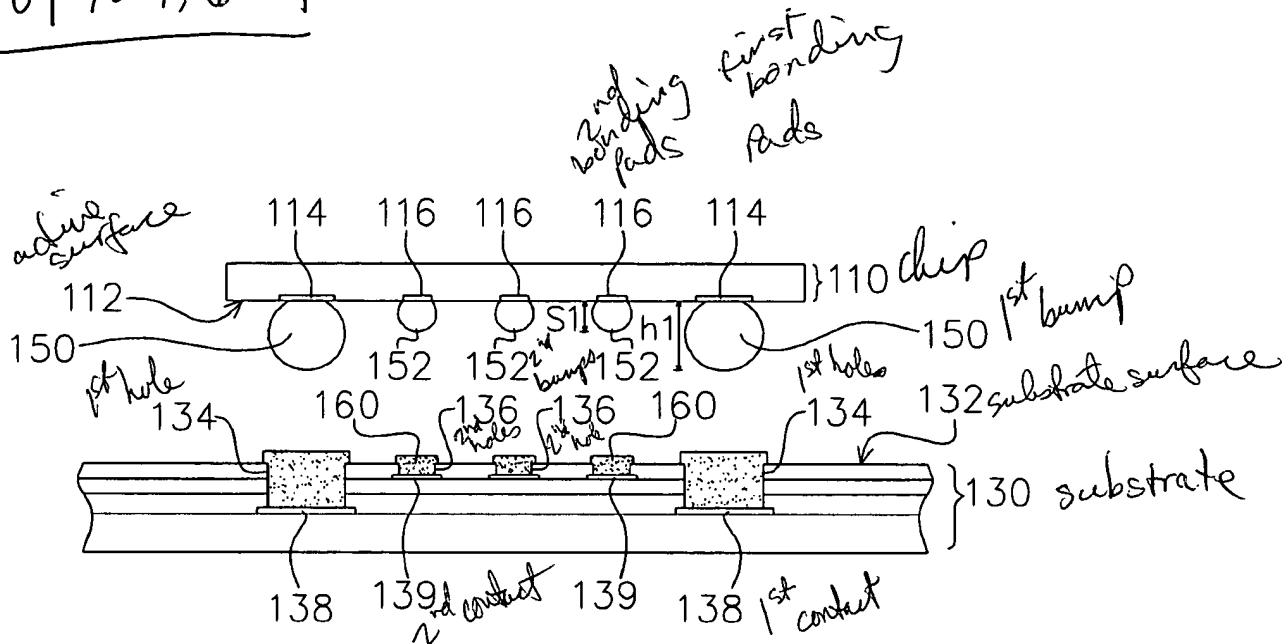


FIG. 1
first bump-positioning

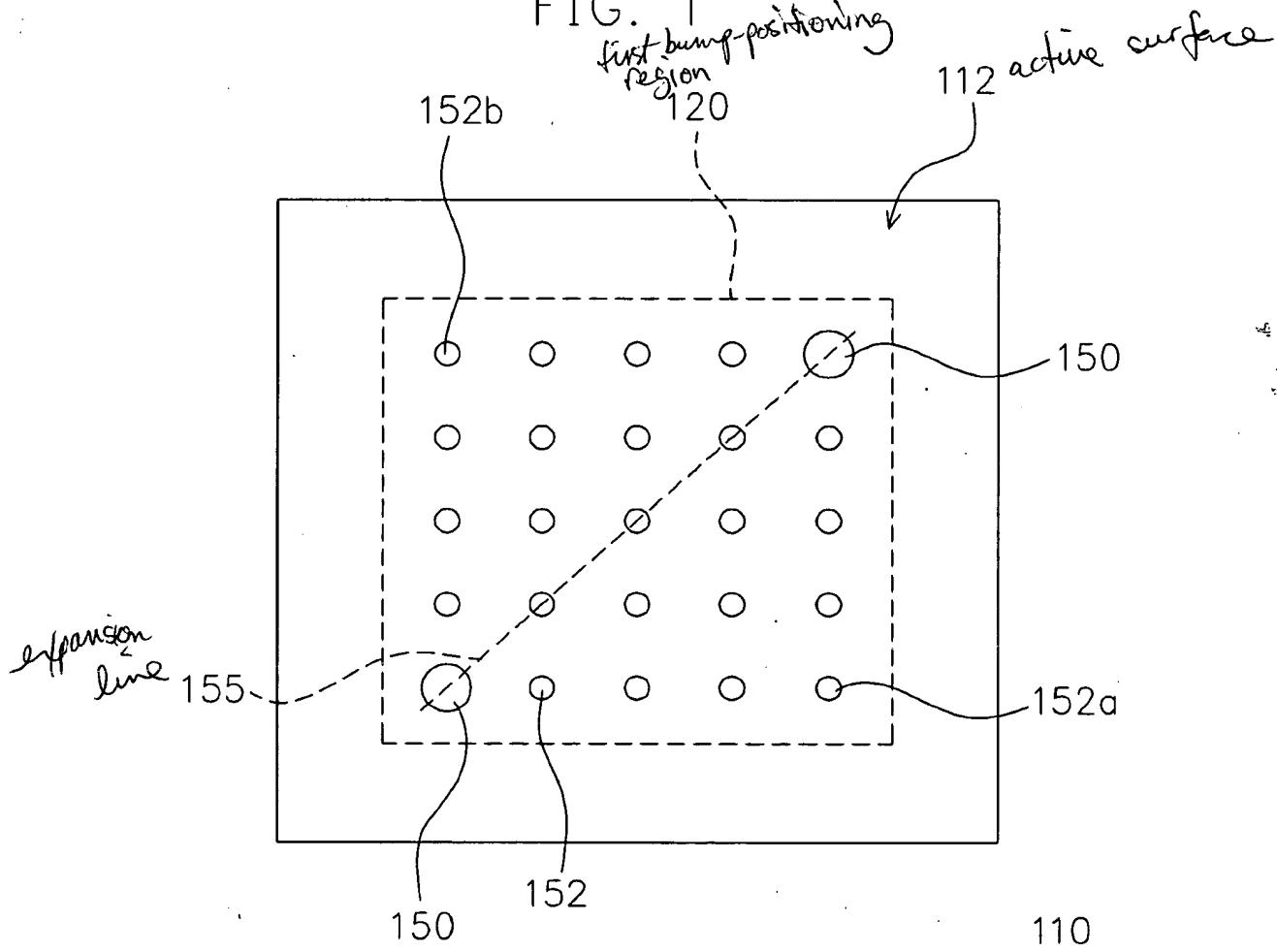


FIG. 1A

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